

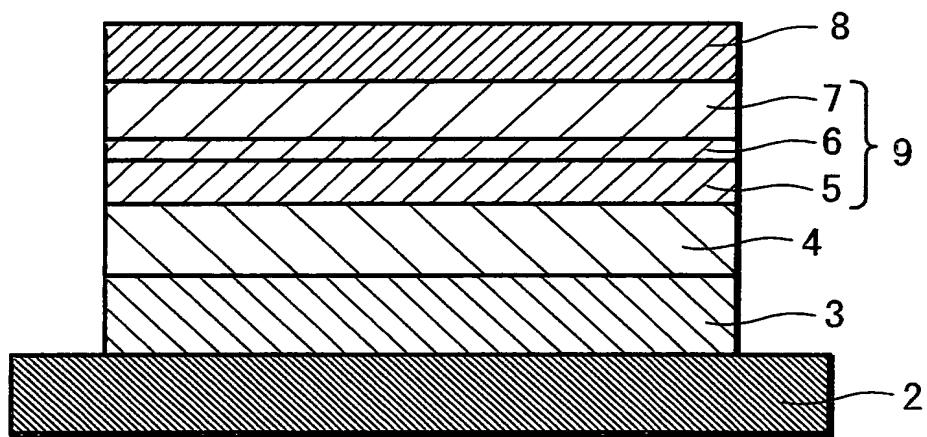
*FIG. 1*1

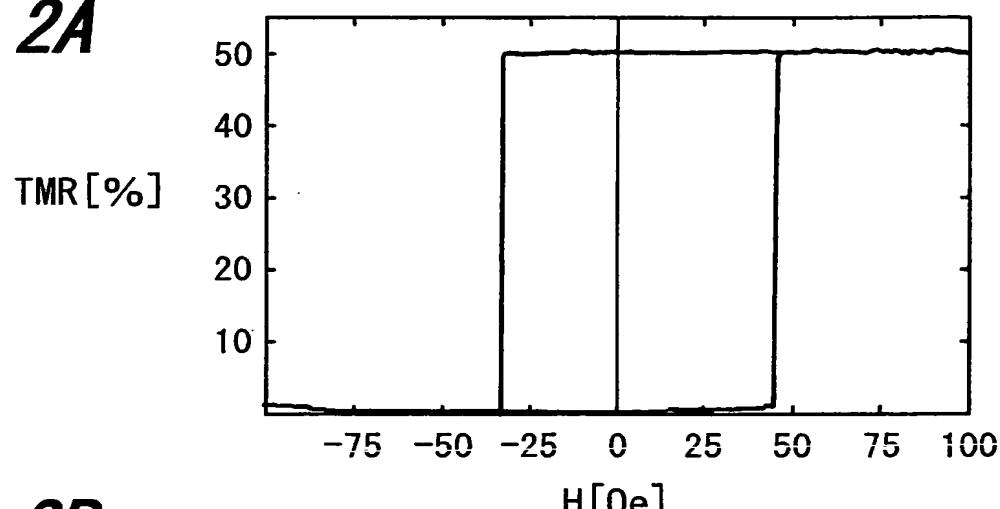
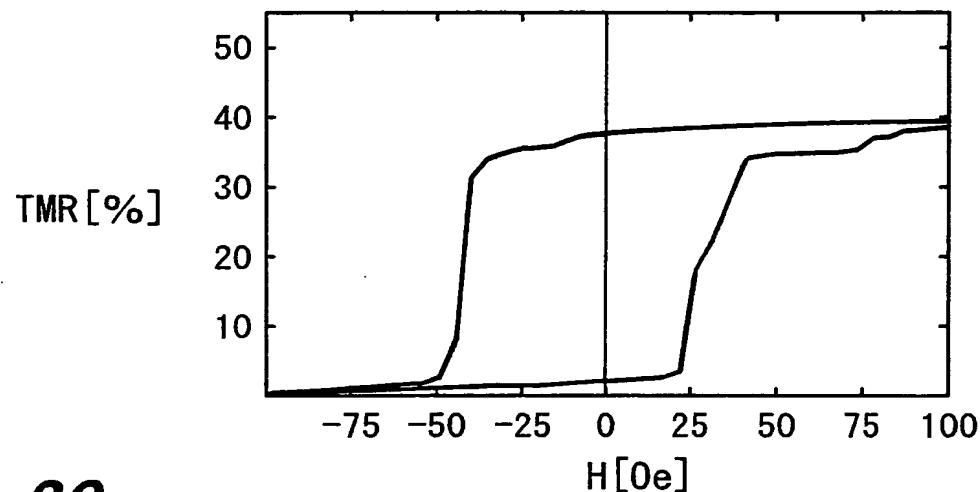
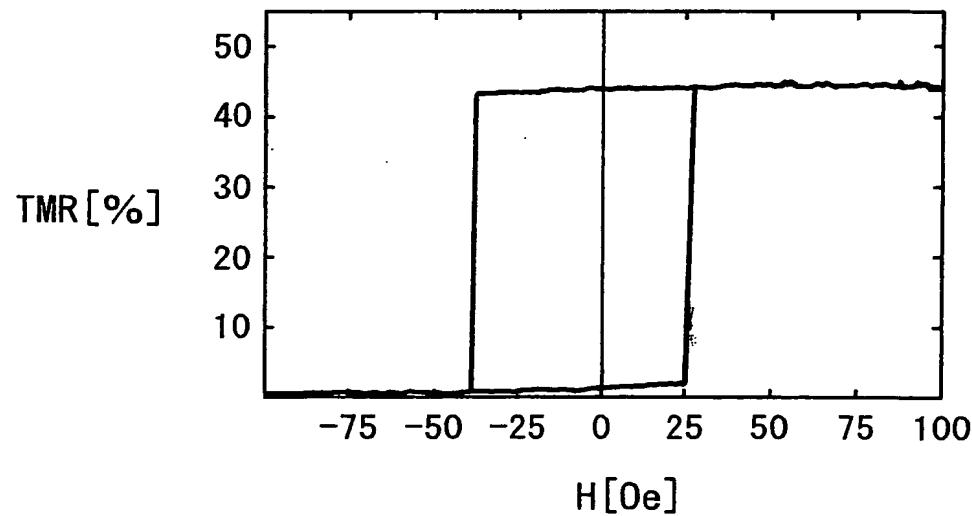
FIG. 2A**FIG. 2B****FIG. 2C**

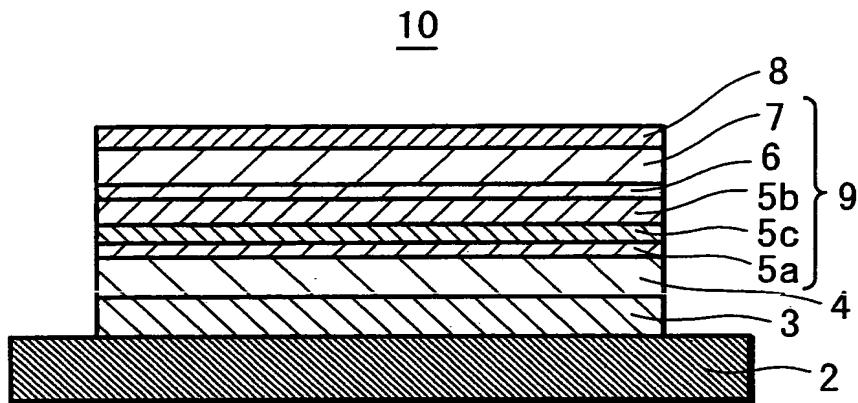
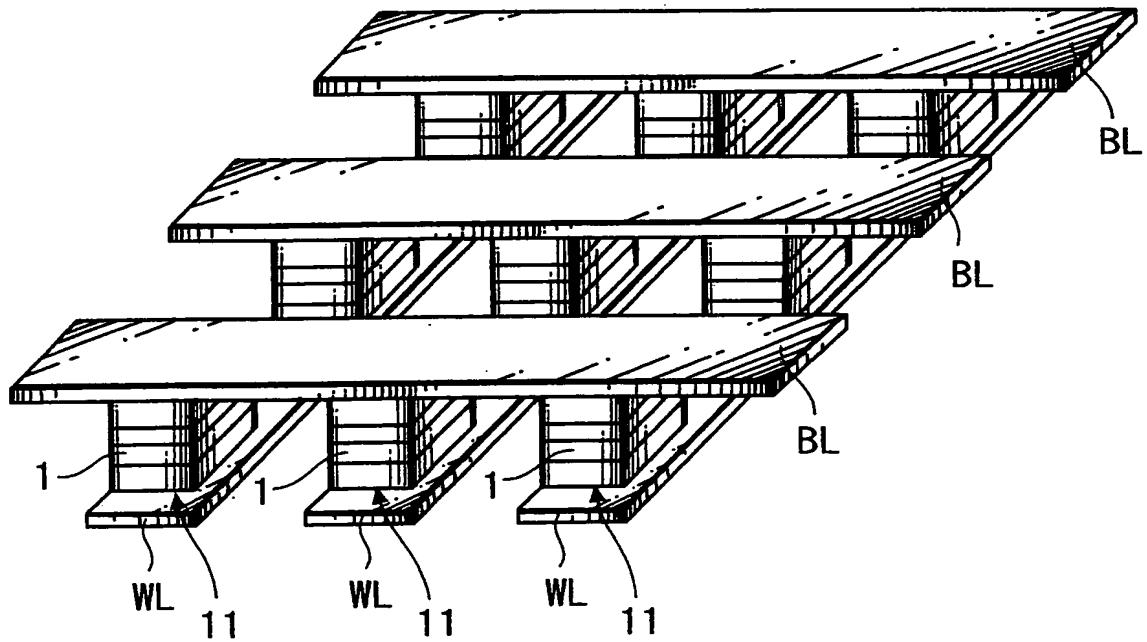
FIG. 3***FIG. 4***

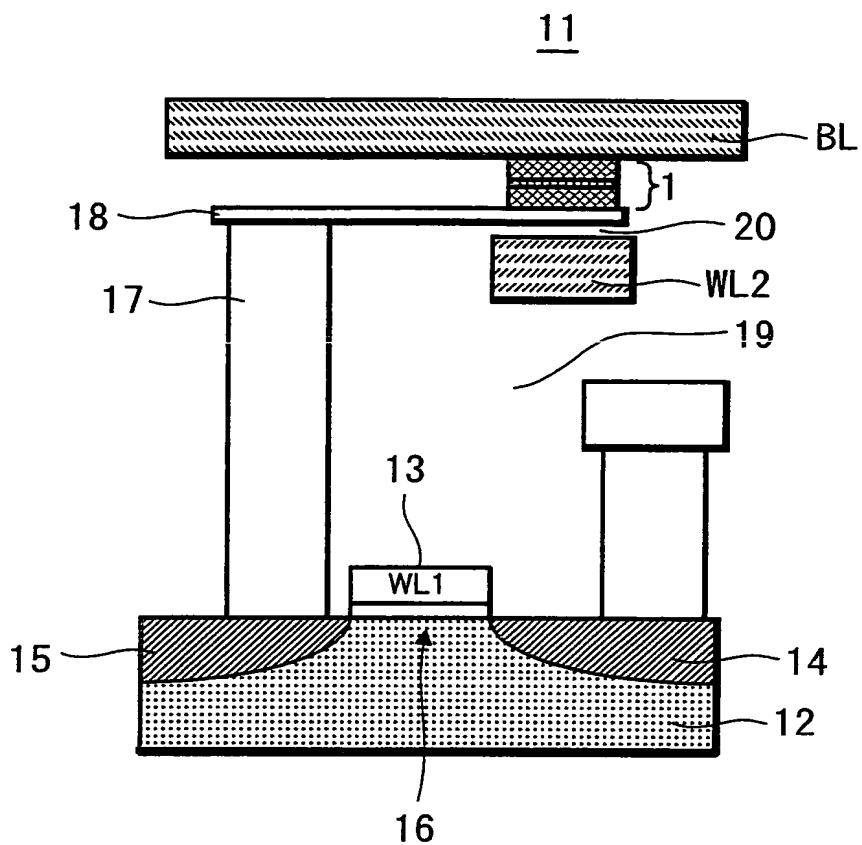
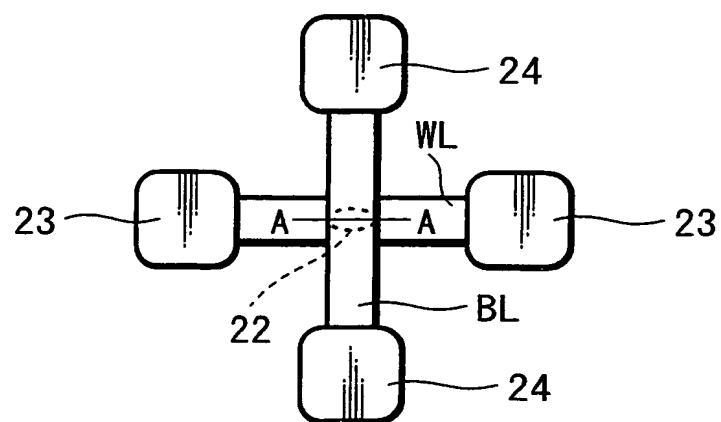
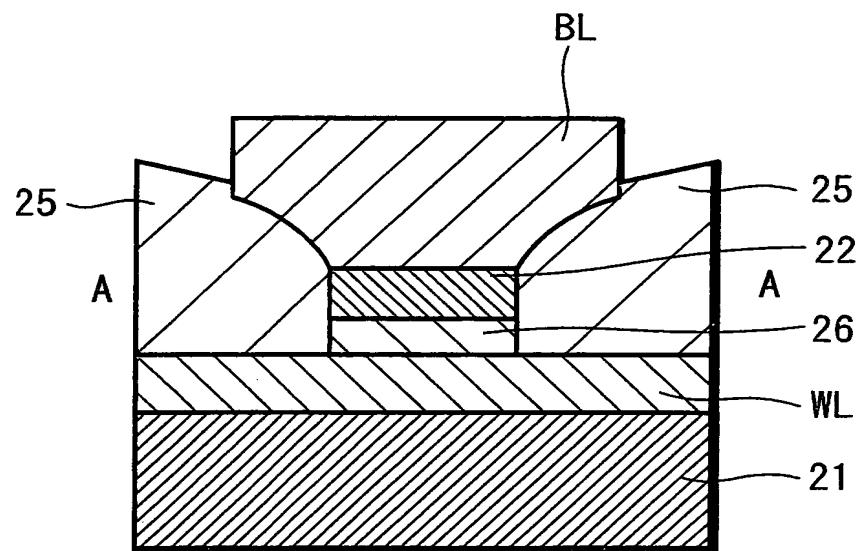
FIG. 5***FIG. 6***

FIG. 7

DESCRIPTION OF REFERENCE NUMERALS

- 1, 10, 22 ... tunnel magnetoresistive devices
(TMR devices)
- 2, 21 ... substrate
- 3 ... underlayer
- 4 ... antiferromagnetic layer
- 5 ... magnetization fixed layer
- 5a ... first magnetization fixed layer
- 5b ... second magnetization fixed layer (reference layer)
- 5c ... nonmagnetic conductive layer
- 6 ... tunnel barrier layer
- 7 ... magnetization free layer
- 9 ... ferromagnetic tunnel junction
- 11 ... memory cell
- 23, 24 ... pads
- WL, WL1, WL2 ... word lines
- BL ... bit line